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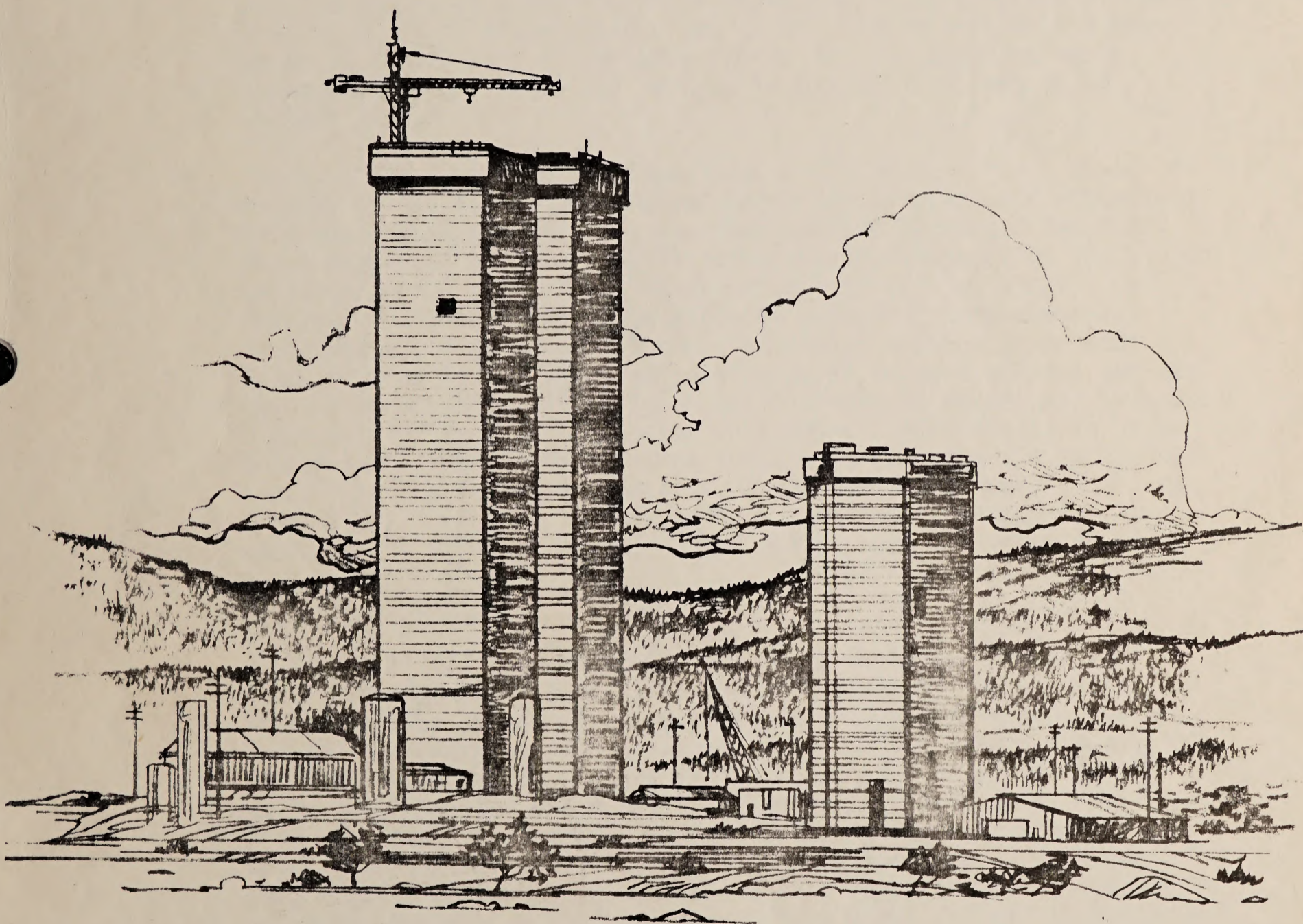
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# UNITED STATES DEPARTMENT OF THE INTERIOR

OIL SHALE ENVIRONMENTAL ADVISORY PANEL  
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### PROTOTYPE OIL SHALE PROGRAM AND ENVIRONMENTAL ADVISORY PANEL SUMMARY

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PROTOTYPE OIL SHALE PROGRAM  
AND  
ENVIRONMENTAL ADVISORY PANEL  
SUMMARY

Background

Resources

The term oil shale is applied to any sedimentary rock containing a solid organic material derived chiefly from aquatic organisms which, when subjected to temperatures of about 900 °F, will yield a significant quantity of a synthetic crude oil. Thus, the term is a misnomer as technically it contains no oil and the deposits here discussed are not shale but an organic marlstone formed in an ancient lake.

There is the equivalent of almost two trillion barrels of shale oil in beds of the Eocene Green River Formation located in northwestern Colorado, northeastern Utah, and southwestern Wyoming. The total areal extent of the deposits is about 25,000 square miles (16 million acres) of which some 17,000 square miles (11 million acres) are believed to contain oil shale with the potential for commercial development. High grade oil shale deposits (defined as in beds at least 10 feet in thickness and averaging 25 or more gallons per ton) contain an estimated 731 billion barrels with 83 percent in Colorado, 9 percent in Utah, and 8 percent in Wyoming. Potentially valuable sodium and aluminum minerals are associated with the oil shale in a portion of the Colorado deposits. Extensive trona deposits in the Green River Formation in Wyoming have been developed and supply the raw material for most of the United States soda ash industry.

Ownership/Status

Approximately 80 percent of the oil shale resources are on public lands administered primarily by the Department of the Interior. Prior to 1920, oil shale was subject to the General Mining Law and through its operation (location and patenting of mining claims) title was transferred to most of the 20 percent or so of the oil shale lands in the region which are in private ownership. The Mineral Leasing Act of 1920 made oil shale a leasable mineral and restricted the size of oil shale leases to 5,120 acres with an individual or company limited to one such lease or its equivalent in pro rata shares of joint ventures. Since 1930, the oil shale lands have been withdrawn from disposal and leasing and since 1968 from all mining claim locations.

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## The Prototype Program

### Origin and Development

An experimental oil shale leasing program was unsuccessful in 1968. In early 1970 a small task force was established within the Interior Department to evaluate the prospects for oil shale development, the national energy situation, and to devise if possible a limited oil shale leasing and development program which would have a reasonable chance of success. During the next 3 years this effort evolved into the present Prototype Oil Shale Leasing Program. This was also the period of the administrative and judicial interpretation of the National Environmental Policy Act of 1969 (NEPA). The oil shale program planning effort involved an ever-widening circle of Federal, state, and local agencies, was the subject of several congressional and public hearings, and became increasingly focused on meeting the NEPA requirements. June 1971 saw the release of a Preliminary Draft Environmental Impact Statement (EIS), a Program Statement, and three State Reports which were followed by a three-volume Draft EIS in September 1972. The effort was completed with release of the six-volume Final EIS in August 1973. In November 1973 the Secretary of the Interior announced the decision to implement the program, leasing terms were released, and lease sales scheduled for early 1974.

### Program Goals

1. To Provide a new source of energy to the Nation by stimulating the development of commercial oil shale technology by private industry;
2. To insure the environmental integrity of the affected areas and at the same time develop a full range of environmental safeguards and restoration techniques that will be incorporated into the planning of a mature oil shale industry, should one develop;
3. To permit an equitable return to all parties in the development of this public resource; and
4. To develop management expertise in the leasing and supervision of oil shale development in order to provide the basis for future administrative procedures.

### Provisions

1. Leases were offered competitively for cash bonuses with minimum royalty payments beginning in the sixth year and accelerating thereafter to encourage development and actual production. Bonus bids were payable in five equal installments, with development expenditures creditable against the last two payments.

2. The leases provide stringent environmental protection requirements, for review and Government approval of development plans and for adding further environmental requirements if needed at a later date. Full compliance with state and Federal pollution control and environmental quality laws is required.

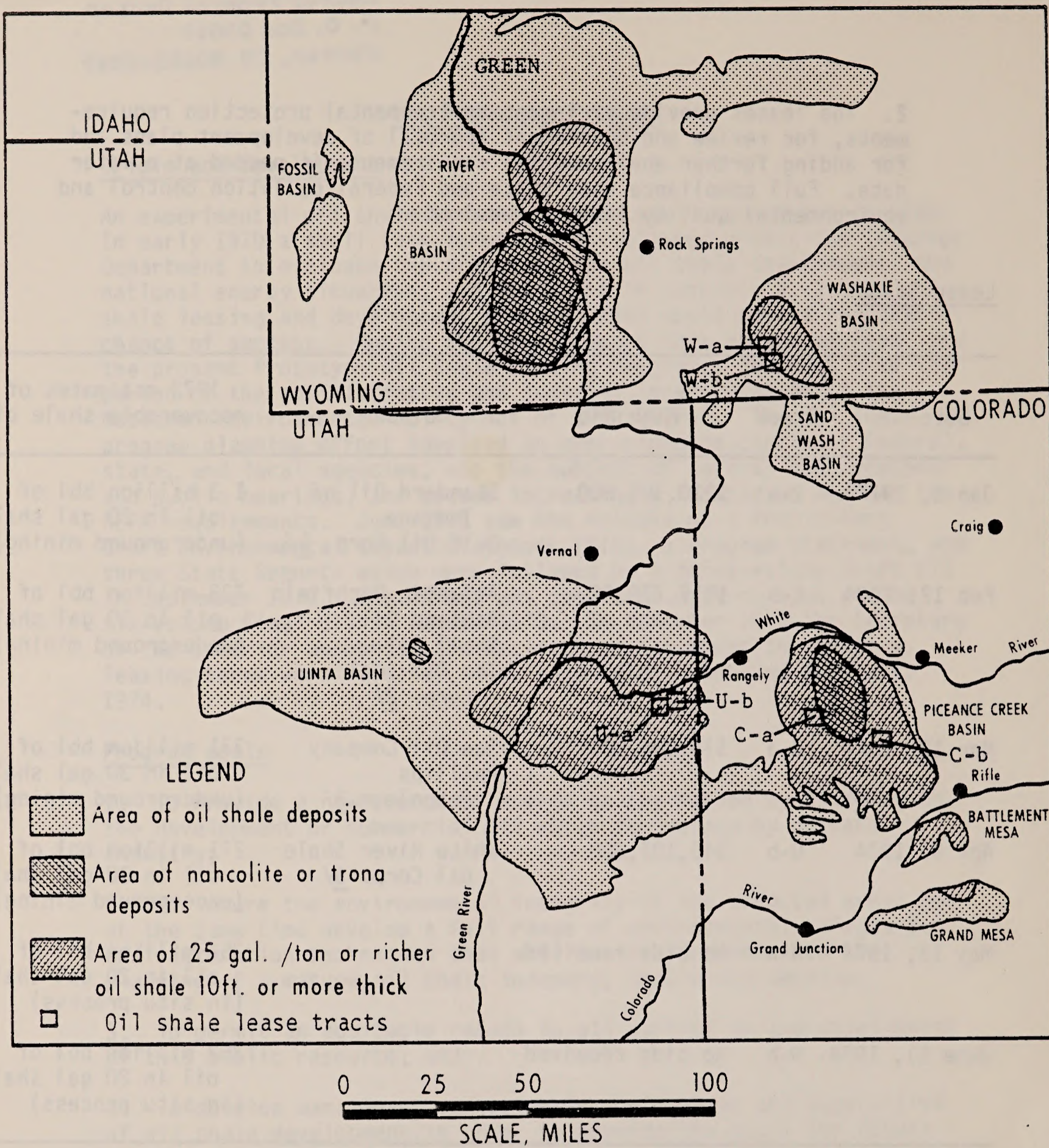
### Lease Sales

Date	Tract	High bid	Bidder	1973 estimates of recoverable shale oil
Jan 8, 1974	C-a	\$210,305,600	Standard Oil of Indiana Gulf Oil Corp. <u>1/</u>	1.3 billion bbl of oil in 30 gal shale (underground mining)
Feb 12, 1974	C-b	\$117,778,000	Atlantic Richfield Ashland Oil Shell Oil The Oil Shale Corp. <u>2/</u>	723 million bbl of oil in 30 gal shale (underground mining)
Mar 12, 1974	U-a	\$75,596,800	Sun Oil Company Phillips Petroleum <u>3/</u>	331 million bbl of oil in 30 gal shale (underground mining)
Apr 9, 1974	U-b	\$45,107,200	White River Shale Oil Corp. <u>3/</u>	271 million bbl of oil in 30 gal shale (underground mining)
May 13, 1974	W-a	No bids received		354 million bbl of oil in 20 gal shale (in situ process)
June 11, 1974	W-b	No bids received		352 million bbl of oil in 20 gal shale (in situ process)

1/ Now operated as Rio Blanco Oil Shale Company.

2/ Now held solely by Occidental Oil Shale, Inc., a subsidiary of Occidental Petroleum and operated as the C-b Shale Oil Venture.

3/ Tract U-b is now held by Standard Oil Company of Ohio (SOHIO) formerly a one-third partner in White River Shale Corporation with Sun Oil and Phillips Petroleum. The two tracts adjoin and will be developed as a joint venture operated as the White River Shale Project.



OIL SHALE AREAS IN COLORADO, UTAH, AND WYOMING

### Post-Leasing Activities

Preliminary development plans were submitted, as required, within 48 hours of announcement of successful bidders. The Conservation Division of the U.S. Geological Survey established the Area Oil Shale Office in Grand Junction, Colorado, in June 1974. The Area Oil Shale Supervisor (AOSS) has primary responsibility for the supervision of all activities on the leased tracts to insure they are in conformance with the terms of the leases and approved plans. Exploration and Environmental Baseline Data Programs were initiated during 1974 by all lessees under the supervision of the AOSS. By the second anniversary of the leases, Detailed Development Plans (DDP's), including environmental protection and rehabilitation programs, were submitted to the Area Oil Shale Supervisor for approval.

Subsequent to submission of the three "DDP's" (two in Colorado, one consolidated plan in Utah), the three lessee groups requested 1-year suspensions of operations because of legal, technical, and economic problems which had developed in connection with immediate development as then planned. They were granted, effective September 1, 1976, for the two Colorado leases and November 1 for the two in Utah. The suspension period ended September 1, 1977, for the two Colorado tracts but because of litigation over title to the oil shale lands and resources in Utah, the suspension remains in effect for the two Utah tracts.

It had been expected that the initial oil shale developments would utilize conventional underground and surface mining methods to extract the oil shale followed by retorting in large surface plants. Capital investment requirements for such operations are extremely large, on the order of \$1 billion or more, which appears to make them uneconomic at the currently anticipated price for oil. The two Colorado lessees are now taking a different approach to development, which is believed will be economic at the world price of oil. Their plans involve modified in situ (in-place) systems in which only a small part of the shale is mined and rubble-filled vertical chambers are created underground. These chambers become underground retorts from which the shale oil is produced, making the large, expensive surface plants unnecessary. Rio Blanco Oil Shale Company (tract C-a) plans eventually to construct a surface retorting plant to utilize that portion of the shale which must be mined and brought to the surface. There are obvious environmental as well as economic advantages to the in situ methods of development. However, it will be several years before actual production of shale oil begins from these projects and their feasibility demonstrated. The Colorado lessees are proceeding with development under revised DDP's approved in the fall of 1977.

On Tract C-a, the 48-acre mine and process area is currently the site of construction of facilities for the Modular Development Phase (MDP) of tract development. The hoist house and headframe are complete and being utilized to sink the 15-foot-diameter service/production shaft. The dewatering/reinjection well system presently includes five dewatering wells and four reinjection wells. Mine service buildings are essentially complete, while construction of the foundations for the processing equipment is underway. A 138-KV powerline has been constructed to the site.

A 30-acre mine support area and 10-acre ancillary mine area on Tract C-b have been cleared and are now the site of development of commercial sized shafts and related mine surface facilities. Concrete hoist towers have been completed for the 34-foot-diameter service shaft and 29-foot-diameter production shaft. Sinking operations on the production shaft began in February and will probably begin on the service shaft in April 1979. The 34-foot-diameter air inlet tunnel to the service shaft has been completed. The hoist house and headframe for the 15-foot-diameter ventilation/escape shaft are complete and being utilized to sink the shaft. The Tract is now accessible by a recently constructed all-weather, two-lane paved highway.

#### Legal Actions

In addition to the litigation over title to oil shale lands and resources in Utah which involves the State, oil shale mining claims, and applicants for State leases as well as the Federal Government, two lawsuits have been instituted against the Prototype Program by environmental groups. The first, filed in December 1976, challenged the legality of the suspensions. It was dismissed for failure to include the lessees as indispensable parties. The second suit, filed in December 1977 by the Environmental Defense Fund, The Colorado Open Space Council, and Friends of the Earth, challenged the approval of the Development Plans for the two Colorado projects, arguing that additional Environmental Impact Statements should be required. The Federal District Court rejected that argument and affirmed the Department's actions under the Prototype Program on August 25, 1978. An appeal on that decision is now pending. Also, in August 1978 the U.S. Circuit Court of Appeals ruled in favor of the claim by the State of Utah to over 157,000 acres of oil shale lands, including the two Utah lease tracts.

#### The Oil Shale Panel

##### Background

As the Prototype Program evolved under the Interagency Task Force, the need was recognized for a continuing mechanism for review and

coordination between the Government and public sectors concerned with oil shale after leasing and during development. From the idea of continuing operation of the Oil Shale Field Task Force, the approach evolved to an all Federal "Technical Advisory Board" as described in the Final EIS and ultimately to the Oil Shale Environmental Advisory Panel (OSEAP) established in 1974. As finally established, it combines interagency and intergovernmental coordination and review with public participation in a formal review process.

#### Authority

OSEAP was originally established by a charter issued by the Secretary of the Interior on February 27, 1974, under the authority of the Federal Advisory Committee Act (Public Law 92-463). It is further governed by the Office of Management and Budget Circular A-63 (as revised) and by the Interior Department Manual (615 DM 3, Release 1621). Charters for such advisory committees are issued for 2-year terms at the end of which they are subject to review for continuation and may be renewed for additional 2-year terms.

#### Key Charter and Manual Provisions

The responsible Interior Department official is the Assistant Secretary - Land and Water Resources, who shall, after consultation with the Assistant Secretary - Energy and Minerals, appoint the Chairman and a Liaison Officer in Washington, D.C.

OSEAP shall:

1. Assist the Department in attaining the objectives of the Prototype Program.
2. Ensure maximum public participation.
3. Advise the Area Oil Shale Supervisor of the Geological Survey and District Managers of the Bureau of Land Management on environmental matters in connection with their responsibilities under the Prototype Oil Shale Leasing Program.
4. Advise the Department of Energy on environmental aspects of its oil shale programs upon special request to the Assistant Secretary - Land and Water Resources by that agency.
5. Respond promptly to requests for advice.
6. Assist in conducting public hearings.

BLM and USGS shall:

1. Consult the Panel on the enforcement of the environmental provisions of the oil shale leases - normally in advance of a decision.
2. Not approve plans or significant modifications nor issue permits or rights-of-way until they have been submitted to the Panel for review and members have had a reasonable opportunity to comment thereon.

Appeal Rights. - An OSEAP member who is dissatisfied with an action by an Interior field official may bring it to the attention of the Panel and, if it cannot be resolved, appeal through channels to the Secretary of the Interior.

#### Panel Activities 1974-1977

Public Meetings	Twenty-four 1- to 2-day meetings were conducted in Denver, Grand Junction, Meeker, and Rangely, Colorado; Bottle Hollow, Park City, Salt Lake City, and Vernal, Utah; and Laramie and Rock Springs, Wyoming.
Temporary Workgroups	Six to develop environmental guidelines in 1974, six to address major environmental aspects of lessees' operations in 1975, and three for DDP review in 1975.
Matters Reviewed	Three Exploration and Environmental Baseline Programs (one for each prototype lease project); five Detailed Development Plans (three original and two revised or modified); all rights-of-way for roads, powerlines, and pipelines; off-tract installations such as water monitoring stations, meteorological stations, vegetation study sites, etc.
Advice to the Secretary of the Interior	In response to special requests from the Assistant Secretary - Land and Water Resources, OSEAP provided advice on alternative water sources for oil shale development, accelerated in situ technology development and proposed leasing of additional tracts, and a proposal to establish a coal advisory panel.

Informational Activities for Panel Members	Aerial survey of oil shale region; field trips to all lease tracts, the Colony Project, the Occidental Logan Wash site, the Paraho operation at Anvil Points; a meeting in a "boom" town (Rock Springs, Wyoming); and briefings at each meeting by Federal, State, and local government or industry representatives on their programs, problems, or information of interest.
Papers Prepared	For: The Rocky Mountain Association of Geologists' 1974 Guidebook; The Environmental Oil Shale Symposium in Golden, Colorado, October 1975; and the American Institute of Chemical Engineers Annual Meeting in Los Angeles, California, November 1975.
Annual Reports	Four required statistical reports and narrative reports to the Secretary of the Interior in 1975 and 1976.

Example of OSEAP Review Procedure

Revised "DDP" for tract C-a (Rio Blanco Oil Shale Company)

May 27, 1977	Copies distributed to all Panel members and alternates.
June 13, 1977	Informal briefing by Rio Blanco staff for C-a DDP review work group and other interested members.
July 26 and 28, 1977	Public hearings (Denver and Rangely, Colorado), OSEAP Chairman was member of the hearing panel.
August 2, 1977	OSEAP meeting (Denver), preliminary discussion and oral comments and questions.
August 5, 1977	Transcripts of public hearings distributed to all panel members.
August 25, 1977	OSEAP meeting (Grand Junction), final discussion, consideration of members written comments, draft summary advice from work group extensively revised and adopted.
August 29, 1977	OSEAP summary advice formally transmitted to Area Oil Shale Supervisor by memorandum.

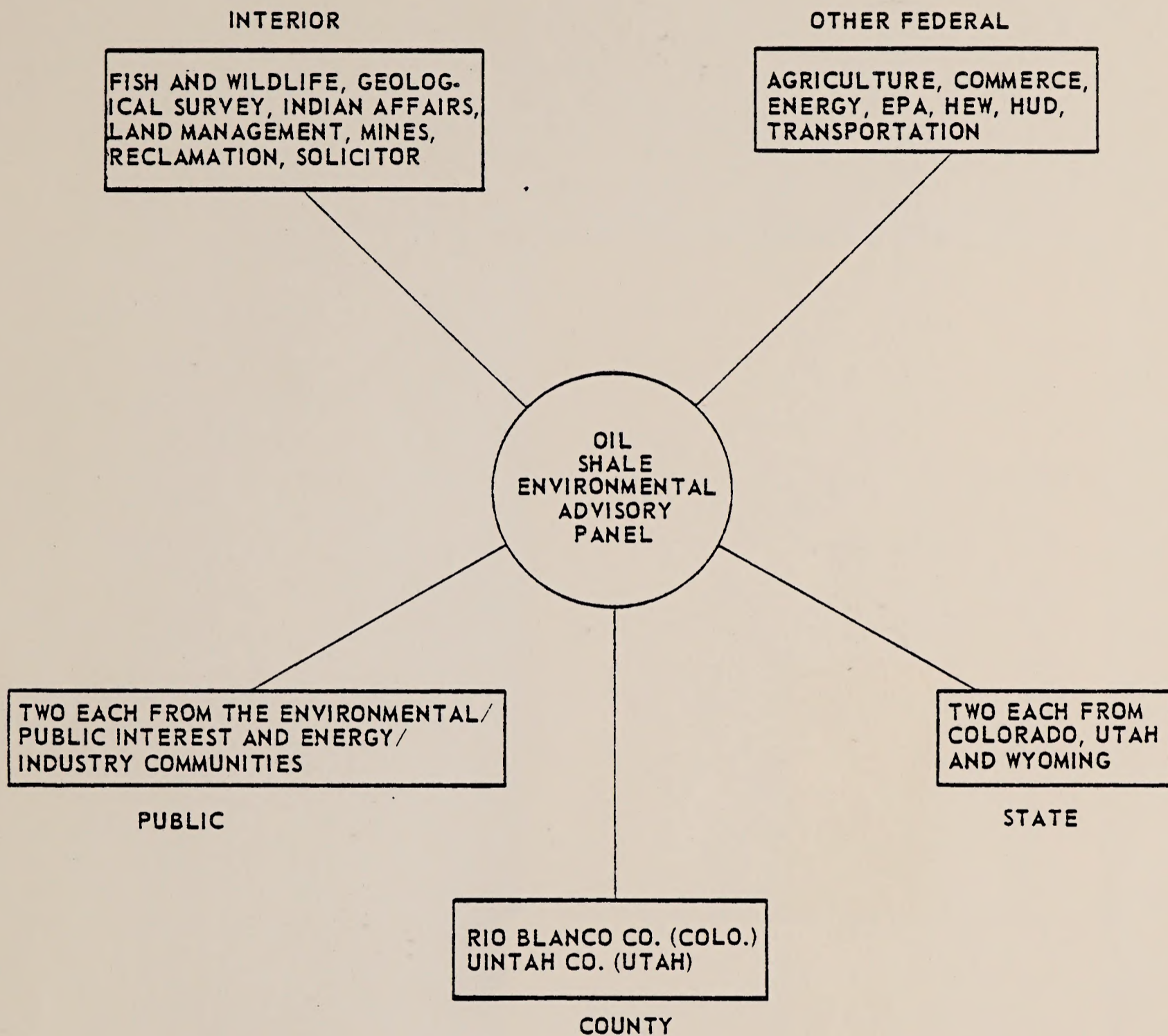
### Panel Suspension and Reestablishment

The OSEAP charter expired at the end of December 1977 without being renewed. At that time all such advisory groups were subject to a rigorous review and the total number reduced substantially. General support for the reestablishment of the Oil Shale Panel was expressed thereafter by certain members of Congress, other Federal agencies, and local governments. The decision to reactivate the Panel was announced in August and a new charter signed by Secretary of the Interior Andrus on September 19, 1978.

Under its new charter (effective November 1, 1978), the authorized membership of OSEAP is 26 with members from 7 Interior bureaus or offices, 7 other Federal agencies, 6 State members (2 named by each of the Governors of Colorado, Utah, and Wyoming), 2 county members (1 each from Rio Blanco County, Colorado, and Uintah County, Utah), and 4 public members named by the Secretary of the Interior (2 representing the industry/energy sector and 2 from the environmental/public interest sector).

The responsible Interior Department official is Guy R. Martin, Assistant Secretary - Land and Water Resources in Washington, D.C.; Craig P. Hall, on Mr. Martin's staff, serves as the Oil Shale Liaison Officer in Washington; and Henry O. Ash, an Interior employee in Denver, is the Panel Chairman.

# # #



PANEL MEMBERSHIP

Environmental and related issues

OTHER RELEVANT

TRANSPORTATION  
ENERGY AND  
CULTURE, COMMERCE,  
AND INDUSTRY

ENVIRONMENTAL  
AND ENERGY  
COMMITTEE

1992. It was established in 1992.

The committee is composed of representatives from the following areas: Agriculture, Commerce, Culture, Energy, Environment, Health, Industry, Labor, Law, Natural Resources, Public Safety, Science and Technology, State, and Transportation. The committee is chaired by the Governor and meets regularly to discuss and coordinate policy on environmental and energy issues.

The committee is responsible for recommending legislation and policy to the Governor and the Legislature. It also monitors the implementation of environmental and energy laws and policies and reports to the Governor and the Legislature on its findings and recommendations.

TWO EACH FROM  
COLORADO STATE  
AND AGRICULTURE

STATE

TWO EACH FROM THE ENVIRONMENTAL  
PUBLIC INTEREST AND ENERGY  
INDUSTRY COMMITTEE

PUBLIC

THE BOARD OF  
COUNTY GOVERNORS

COUNTY

PARALLEL MEMBERSHIP

